

BELLCOMM, INC.

SUBJECT: Second AAP Electrical Panel
Meeting - Case 600-3

DATE: June 6, 1967

FROM: G. M. Anderson

ABSTRACT

The second meeting of the AAP Electrical Panel was held at MSC May 23-24, 1967.

Working Group personnel assignments were made. Actions items from the first meeting and the Workshop PDR were reviewed.

MAC reported on a study of the feasibility of inter-connecting the Workshop and LM-ATM solar arrays. It appears difficult.

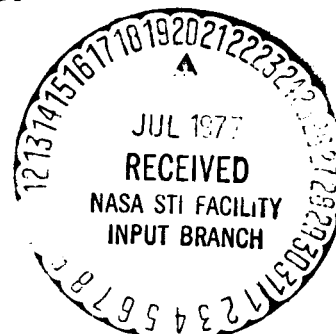
(NASA-CR-154464) SECOND AAP ELECTRICAL
PANEL MEETING (Bellcomm, Inc.) 6 p

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| (NASA CR OR TMX OR AD NUMBER) | (CATEGORY) |



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MEMORANDUM FOR FILE

The second meeting of the AAP Electrical Panel was held at MSC May 23-24, 1967. Representatives of MSC, KSC, and MSFC were in attendance. J. Dunlop and the author were present from Bellcomm. Contractor representatives attended from Douglas, Grumman, McDonnell, and North American. The agenda of that meeting is attached. Detailed minutes will be available from the secretary in the near future. Highlights of the actions taken are recorded here.

Identification of Interfaces

Al Woosley of MSFC presented block diagrams showing the electrical interfaces for the power system for AAP 1-4. It was agreed that all docking ports on the MDA will be CSM ports except for one, which would be configured for the LM. This is the Panel's impression of the existing Program baseline. It was decided that the Panel would recommend complete electrical interfaces at each of the CSM ports.

Working Group Personnel Interface Assignments - Airborne Configuration

Assignments were made to Working Groups for the following interfaces:

| | |
|---------|--|
| CSM-MDA | MSFC - Al Woosley MSC - Forest Eastman NAA - Tom Quebedeaux MAC - Wesley Wick |
| LM/ATM | GAEC Frank Winikus MSFC Jerry Felch MSC Jerry Balusek |
| LM/MDA | GAEC Frank Winikus MSFC Al Woosley MSC Jerry Balusek |
| MDA/AM | MAC Wesley Wick MSFC Al Woosley MSC Bob Cohen |

~~When offices and resources are~~

| | | |
|----------|---------|-----------------|
| AM/S-IVB | MAC | Wesley Wick |
| | MSFC | Al Woosley |
| | Douglas | Clyde Bunting |
| | MSC | Bob Cohen |
| IU/SLA | MSFC | Al Woosley |
| | NAA | Tom Quebedeaux |
| | MSC | Forrest Eastman |

Working Group Personnel Interface Assignments - Launch Configurations

Interfaces in MSOB and Pad.

GSE Interfaces

| | |
|-----------------|-----------------------------|
| MSC | Lyndon Robinson |
| MSFC | Don Woodruff |
| KSC | Jim Fulton |
| MAC | John Otradevac (Facilities) |
| | John Lovelace (GSE) |
| NAA | R. Bousack |
| GE (Huntsville) | Walt Kantmann |
| GAEC | Arnie Schaefer |

Subsequent to the Working Group assignments there was a brief review of the current electrical interface requirements. One item which produced considerable discussion had to do with the provisions for grounding within the Cluster configuration. This subject is undoubtedly going to come in for considerable study as it is not obvious how one applies the principle of single point grounding which is often used in spacecraft design.

MAC has written a document, F4-11, Interface Control Document, for Airlock Interfaces.

Action items from the PDR on the OWS.

These items were reviewed one at a time. They were disposed of in various ways, either by being assigned for study by the Working Groups or passed to another panel as more appropriate. There were not sufficient copies of the list of items for review by all members of the Panel, so the author's notes on this portion of the agenda are incomplete.

Lighting Requirements in the OWS.

Frank Coe, CSD, MSC, gave a brief presentation on this subject. MSC has memoranda on this subject which will be in the minutes. They are currently thinking of a requirement of 30 ± 10 foot candles, measured at the working surface for photography, writing or reading. General Workshop illumination levels are required to be 2 ± 1 foot candles.

There was discussion of the lighting in the mockup at MSFC, and the trouble with point light sources.

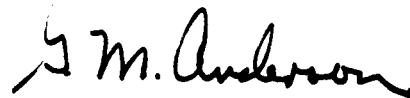
MSC took an action item to perform tests to determine what light level was required for good color movies. They will be prepared to report on this item at the next meeting.

Action Items From the First Intercenter AAP Electrical Panel Meeting

One of the principal items discussed under this heading was the feasibility of interconnecting the LM-ATM solar array with the S-IVB solar array. Most of the Panel members felt that it was a desirable objective to have the capability of making this interconnection to cope with possible failure modes. Preliminary work on this problem by MAC indicates that it is going to be rather difficult. Different solar cell output as a consequence of a different thermal environment, different numbers of cells in the array, differences in the regulators, and line drop problems all contribute to make the problem rather difficult. Study will be continued on this item.

Workshop power requirements are still not adequately firm and there is continuing pressure to identify them. MSC has promised a preliminary time line for Mission A by June 1, 1967. It is being prepared by Warren North at MSC.

The next meeting of the Panel is tentatively scheduled for June 27-28, 1967, at MSFC.

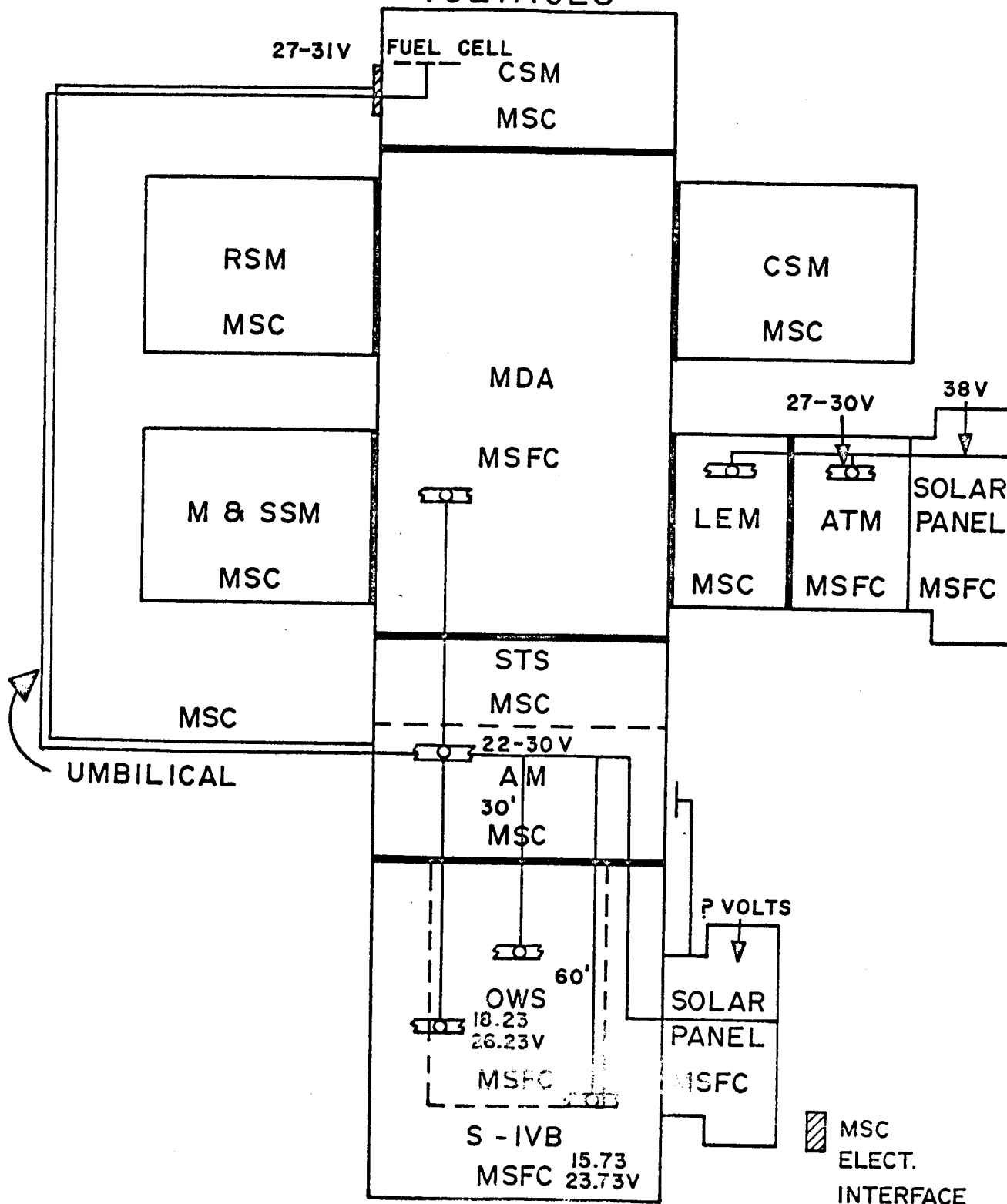


G. M. Anderson

1022-GMA-mef

Attachments

ELECTRICAL INTERFACES FOR POWER SYSTEMS VOLTAGES



SAA CLUSTER
AAPI-4

AGENDA

Second Intercenter AAP Electrical Panel Meeting May 23-24, 1967

May 23

- | | |
|-----------|---|
| 0900-1000 | 1. Introduction |
| 1000-1030 | 2. Identification of Cluster Interfaces and Associated Working Groups |
| 1030-1045 | Break |
| 1045-1230 | Item 2 continued |
| 1230-1315 | Lunch |
| 1315-1500 | 3. Action Items from PDR of CWS |
| 1500-1515 | Break |
| 1515-1700 | Item 3 continued |

May 24

- | | |
|-----------|---|
| 0900-1030 | 4. Action Items from First Intercenter AAP Electrical Panel Meeting |
| 1030-1045 | Break |
| 1045-1230 | 5. Action items from EPS Interface Working Group Meeting No. 3 |
| 1230-1315 | Lunch |
| 1315-1400 | New Action Items |
| 1400-1430 | Power Management Plan |
| 1430-1445 | Break |
| 1445-1530 | Summary |

BELLCOMM, INC.

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